

Method and Structure for Variable-length Frame Support in a Shared Memory Switch

ABSTRACT

5 The present invention relates to switching in electronic networks. Many data transmission protocols and technologies used in such networks, such as TCP/IP and Ethernet, use variable-length packets for transmission. Often however, the nodes that make up these networks typically contain high-speed cell switches that only support fixed-size data units. To support variable-length packets in such a fixed-size cell switch non-interleaving switching and transmission must be offered. The present invention provides such a solution in essence by segmenting a variable-length frame into a plurality of fixed-length cells including a start-of-frame cell, one or more continuation cell(s), and an end-of-frame cell and routes said fixed-length cells through said switch, thereby providing, at an output of said switch, subsequent and deadlock-free transmission of consecutive cells of a certain frame, and block any cell of a different frame from interleaving. This leads to better average delay characteristics and removes the need for packet reassembly.

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